



California Regional Water Quality Control Board

Central Coast Region

Winston H. Hickox
Secretary for
Environmental
Protection

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Gray Davis
Governor

October 23, 2003

Mr. Richard W. McClure
Olin Corporation
Environmental Remediation Group
PO Box 248
Charleston, TN 37310-0248

Mr. Jay McLaughlin
President and CEO
Standard Fusee Corporation
PO Box 1047
Easton, MD 21601

Dear Messrs. McClure and McLaughlin:

SLIC: 425 TENNANT AVENUE, MORGAN HILL; COMMENTS ON OLIN'S GROUNDWATER FLOW ASSESSMENT WORK PLAN

The Regional Board has reviewed MACTEC Engineering and Consulting, Inc.'s October 10, 2003, *Groundwater Flow Assessment Work Plan* (Work Plan) prepared on behalf of Olin Corporation. The Regional Board required submittal of the Work Plan to determine if detections of perchlorate found in wells between Olin's site and Morgan Hill's Nordstrom Park well (northeast of the site) are related to perchlorate releases at the subject site.

The Work Plan proposes to evaluate area groundwater to determine if groundwater has moved northeast of the site for a substantial distance. If the results of the investigation indicate that perchlorate in groundwater has moved northeast of the site, then Olin proposes to submit an appropriate monitoring and sampling program to determine the northeasterly extent of perchlorate contamination. The Work Plan proposes to consider among other things, the following two theoretical transport mechanisms:

- Whether past or current pumping in the alluvial aquifer system northeast of the site produced gradient reversals sufficient in magnitude and duration to have caused groundwater at the site to move in a north-northeast direction for a significant distance, and,
- Whether historical groundwater pumping from the aquifer south of the site, and using the pumped water as irrigation water northeast of the site, has impacted perchlorate in groundwater northeast of the site.

We have the following comments on the Work Plan, which also incorporate comments received from the Santa Clara Valley Water District and from Hatch & Parent on behalf of the City of Morgan Hill:

- We do not believe the Work Plan as proposed would produce meaningful results to determine whether past or current pumping will produce a gradient reversal to cause groundwater at the site to move in a north-northeast direction. The work Plan relies heavily on analysis and interpretation of historical groundwater elevations measured by the Santa Clara Valley Water District (SCVWD) and the Department of Water Resources. There are many inherent

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limitations to using data collected for interpretation of regional conditions for the resolution of groundwater gradients and flow directions on a local scale. SCVWD reports that it has provided Olin and its consultants with a great deal of data, including GIS files for water level maps. Transmission of this data included the requisite metadata files, which explain how the data were measured, recorded, or generated, and the limitations thereto.

SCVWD has also related in meetings and teleconferences to Olin and its consultants that water level data collected by the District are not useful for small-scale interpretations of flow conditions. In addition to large differences in screen intervals in wells used to monitor water levels, there have also been long time lags between measurements used for individual water level maps. Further, antecedent pumping conditions have not been monitored, such that the acceptability of individual measurements may not be verifiable.

A meaningful assessment should include collecting and analyzing raw data as proposed. However, it should also include installation of new monitoring points and collection of new data.

- The Work Plan proposes no field work. Your consultant's interpretations will be based on agency data collected for the purpose of regional basin studies. The standards for data collection by these agencies (the California Department of Water Resources and the Santa Clara Valley Water District), and in particular documentation of data collection, may not meet the standards requisite for a regulatory compliance investigation. We believe that an effort excluding any independent verification through field investigation of water levels and perchlorate occurrence will fail to meet the objectives outlined in our September 30th letter. The assessment should include the installation of several appropriately designed monitoring wells between the Olin site and the City of Morgan Hill Nordstrom Park well to obtain specific water level data and perform specific aquifer tests, as needed.
- The assessment should include an evaluation of the effects of diffusion in moving perchlorate contamination to areas hydraulically upgradient or sidegradient of the site. Diffusion is the process by which contaminants move from areas of higher to those of lower concentrations. Although the diffusion of contaminants is generally slow compared to the movement of contaminants by advection, at this site, it may be a contributing factor considering the length of time perchlorate contamination has existed at the site and the potential influence of pumping induced gradients. For example at the site, there are two monitoring wells MW-SW-010-SA1-3 (about 450 feet northeast and upgradient of the perchlorate source area) and MW-SW-011-SA1-3 (about 450 feet north-northeast and upgradient of the source area) that have perchlorate detections. MW-SW-010-SA1-3 had a perchlorate detection of 2.5 µg/l in May 2003 and MW-SW-011-SA1-3 had a perchlorate detection of 3.4 µg/l in May 2003.

The proposed assessment will not be able to provide the information required in our September 30, 2003, letter which is to determine if detections of perchlorate found in wells between Olin's property and Morgan Hill's Nordstrom Park well are related to perchlorate releases at the subject site. Therefore, Olin and Standard Fusee must submit by **November 21, 2003**, a revised Work Plan containing the elements provided in our comments and a time schedule for implementing the Work Plan.



We request that you also provide copies of all work plans, documents, and correspondence submitted to the Regional Board to Standard Fusee's representative, Mr. Keith M. Casto at the following address:

Mr. Keith M. Casto
Sedgwick, Detert, Moran & Arnold LLP
One Embarcadero Center, 16th Floor
San Francisco, CA 94111-3628

The Regional Board needs the Work Plan to determine whether Olin and Standard Fusee are responsible for perchlorate contamination northeast of the Olin site. The evidence that supports requiring the report includes the following:

1. Olin's property on Tennant Avenue is the only site in the area that we are aware of with confirmed releases of perchlorate to the environment.
2. Although groundwater appears to flow naturally in a southeast direction, there are conditions that could cause perchlorate-degraded water to migrate from Olin's property to the northeast. Pumping-induced gradient changes is one such condition. Water-level data, both current and historic, show that the gradient is relatively shallow in this area and could be influenced by the right set of pumping conditions. Successive pumping, irrigation, and infiltration could also have caused migration of degraded water over many years.

Failure to comply with requests pursuant to Water Code section 13267 may subject you to enforcement action, including imposition of civil liability in an amount up to \$1000 per day of noncompliance.

Any person affected by this action of the Regional Board may petition the State Water Resources Control Board (State Board) to review the action in accordance with Section 13320 of the California Water Code and Title 23, California Code of Regulations, Section 2050. The petition must be received by the State Board within 30 days of the date of this order. Copies of the law and regulations applicable to filing petitions will be provided upon request.

If you have any questions, please contact **A. John Mijares at (805) 549-3696** or Harvey Packard at (805) 542-4639.

Sincerely,

Roger W. Briggs
Executive Officer

ajm/s/icb/cru/johnm/olin../rick mcclure comments groundwater flow assessment work plan 16oct03

cc: Olin Correspondence List



do not mail

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